

MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION
HELENA, MONTANA

Job Completion Report
Development Project

State of Montana

Project No. F-24-D-31

Name Northwestern Montana Fishery Study

Period Covered May 1, 1960 to
April 30, 1961

Title Statewide Lake and Stream
Rehabilitation - Lake Five

ABSTRACT:

Lake Five, (160 acres), Halfmoon Lake (12 acres) and Mud Lake (10 acres) in Flathead County, were treated with 935 gallons of emulsifiable rotonone (Pro-Nox Fish) on September 9, 1960. This was to remove stunted populations of yellow perch (Perca flavescens), pumpkinseed (Lepomis gibbosus), as well as a small population of largemouth bass (Micropterus salmoides). The toxicant was applied at a rate of 1.0 ppm (1 gallon per 3 acre feet).

OBJECTIVES:

To remove as completely as possible the existing fish populations from Lake Five, Halfmoon Lake and Mud Lake. To establish a native strain of cutthroat trout after detoxification.

TECHNIQUES USED:

On September 9, 1960, Lake Five, Halfmoon Lake and Mud Lake were treated with 935 gallons of emulsifiable rotonone. Three boats with two-man crews were used in applying the toxicant. Application on Lake Five (160 acres) was accomplished mainly by the use of a 16-foot boat with K-B boat bailers attached to the decavation plates of the 75 hp. motor. Prop-wash dispersed the toxicant. Application on Halfmoon Lake (12 acres) was accomplished with a 14-foot boat (10 hp.) with a siphon hose. Mud Lake (10 acres) application was accomplished by a spray and siphon system. All weed beds and shorelines were sprayed with either a power spray unit transported by boat or by back-pack fire pumps.

FINDINGS:

Lake Five is located approximately 5 miles west of West Glacier, Flathead County, Montana. At the time of rehabilitation there were 160 surface acres, a total of 2206 acre feet of water with a maximum depth of 65 feet. To remove the existing fish populations and to prevent reoccurrence of the warm water fish species necessitated the chemical treatment of Halfmoon and Mud Lakes. Water courses connect all three bodies of water.

Shortly after application (two hours) distressed and moribund fish were observed along the shore and shallow areas of the lakes. Fish affected were mainly 2- to 4-inch pumpkinseeds, 3- to 5-inch perch, and 2- to 4-inch large-mouth bass. Distribution time for toxicant application of all waters was approximately eight hours. Numerous yellow perch and pumpkinseeds accumulated in the bays but were of little public nuisance.

Post-application checks the following day revealed no fish activity in Mud Lake, and Lake Five. Distressed fish were found in Halfmoon Lake in the proximity of three spring areas within the lake. These spring areas and surrounding waters were treated with an additional 30 gallons of toxicant. No further fish activity was found.

Detoxification tests (biological assays) were made during the next sixty days; all waters were non-toxic to fish at all depths. A native strain of cut-throat were planted at the present stocking rates into all waters treated.

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Approved by George D. Holter

Date May 12, 1961